TENNESSEE DEPARTMENT OF EDUCATION
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Criminal Justice III: Investigations

Primary Career Cluster:	Law, Public Safety, Corrections and Security
Consultant:	Amy F. Howell, (615) 532-2839, Amy.F.Howell@tn.gov
Course Code(s):	5989
Prerequisite(s):	*Criminal Justice II* (5988)
Credit:	1
Grade Level:	11-12
Graduation Requirements:	This course satisfies one of three credits required for an elective focus when taken in conjunction with other Law and Public Safety courses.
Programs of Study and Sequence:	This is the final course in the *Law Enforcement Services* program of study.
Aligned Student Organization(s):	SkillsUSA: http://www.tnskillsusa.org Brandon Hudson, (615) 532-2804, Brandon.Hudson@tn.gov
Coordinating Work-Based Learning:	Teachers are encouraged to use embedded WBL activities such as informational interviewing, job shadowing, and career mentoring. For information, visit http://tn.gov/education/cte/work_based_learning.shtml.
Available Student Industry Certifications:	None
Dual Credit or Dual Enrollment Opportunities:	There are no known dual credit/dual enrollment opportunities for this course. If interested in developing, reach out to a local postsecondary institution to establish an articulation agreement.
Teacher Endorsement(s):	590, 750
Required Teacher Certifications/Training:	None
Teacher Resources:	http://www.tn.gov/education/cte/LawPublicSafetyCorrectionsSecurity.shtml

Course Description

Criminal Justice III: Investigations is the final course designed to equip students with the knowledge and skills to be successful in the sciences of criminal investigations. Students will learn terminology and investigation skills related to the crime scene, aspects of criminal behavior, and applications of the scientific inquiry to solve crimes. By utilizing the scientific inquiry method, students will obtain and analyze evidence through simulated crime scenes and evaluation of case studies. Upon completion of

this course, proficient students will be able to identify careers forensic science and criminology, summarize the laws that govern the application of forensic science, and draw key connections between the history of the forensic science system and the modern legal system. Standards in this course are aligned with Tennessee State Standards for English Language Arts & Literacy in Technical Subjects and Tennessee State Standards in Mathematics.*

Program of Study Application

This is the fourth and final course in the *Law Enforcement Services* program of study. For more information on the benefits and requirements of implementing this program in full, please visit the Law, Public Safety, Corrections and Security website at http://www.tn.gov/education/cte/LawPublicSafetyCorrectionsSecurity.shtml.

Course Standards

Scope and Development of Forensic Science

1) Articulate important historical events and contributors impacting the evolution of forensic science and crime scene investigation in the United States. Use a timeline or other graphic to illustrate the major developments from the 16th century to today, citing specific textual evidence from textbooks, online and print journals, and other websites. Include any legislation that mandates the practice of forensic science. (TN Reading 1; TN Writing 2, 9)

2) Define the term Criminalistics. Research a case study that involved a criminalist and report on how his/her involvement in the case made a difference in the outcome. Cite evidence from textbooks, online and digital professional journals, and case studies to support claims. Include not only physical evidence analysis but also the application of physical and natural sciences. (TN Reading 1, 2, 6, 8; TN Writing 4, 8, 9)

3) Describe the eleven sections of forensic science as defined by the American Academy of Forensic Science, and discuss associated laws that guide scientific work in forensics. Develop a visual or graphic presentation to explain the roles and functions of each and relate to law and public safety careers studied in previous courses. (TN Reading 1, 4; TN Writing 6, 9)

4) Develop an argumentative essay that makes a claim about the influence of media on the practices of crime investigations, citing a specific trial and the investigation leading up to it. Discuss the differences between the gathering and presenting of crime scene evidence and the depiction of that system in movies and television. Develop claim(s) and counterclaim(s) without prejudice, supplying data and text-based evidence from sources consulted. (TN Reading 1, 2, 8, 9; TN Writing 1, 4, 9)

5) Citing information found on websites in the forensic links section of the American Academy of Forensic Science, news media, and legislation, describe the evolution of the modern crime laboratory. Discuss the features of present-day crime labs, including the differences between public and private. Explore how they have changed law enforcement and the conviction of criminals, their services and capabilities, and the new or emerging technologies they use. (TN Reading 1, 7, 9; TN Writing 4, 8, 9)

Career Planning

6) Using the American Academy of Forensic Science and Young Forensic Scientist Forum, investigate occupations within forensic science. Demonstrate an understanding of each occupation by accurately articulating the following:
    a. Roles and responsibilities of the position
    b. Comparison of similar careers available in local, state, federal, and military systems
    c. Educational, training, and certification requirements

    (TN Reading 1; TN Writing 7, 8, 9)

7) Develop a career profile for at least three occupations related to forensic science and criminal investigations, using print, online, and/or personal interview sources to capture at minimum the following:
    a. Job description
    b. Essential knowledge and skills needed for the career
    c. Program or path of study to reach occupational goals, beginning with high school and proceeding through postsecondary
    d. Licensure and credentialing requirements
    e. Non-educational job requirements such as physical fitness tests, minimum age, and psychological evaluations

    (TN Reading 2; TN Writing 4, 9)

Elements of Investigation

8) Identify emerging technologies and techniques being utilized by law enforcement while gathering and processing evidence at a crime scene and in the laboratory. Review a current or recent court case that utilized one of these technologies or techniques. Write an argumentative essay debating if the technology could be an infringement on the defendant's rights. An example would be maintaining a database of DNA from birth. (TN Reading 2, 4; TN Writing 1, 8, 9)

9) Explain the law enforcement officer's roles and responsibilities at a crime scene and the elements of preserving and recording the crime scene; incorporate knowledge gained in previous courses related to search and seizure of persons, property, and evidence. Photograph, sketch, and make notes of a simulated crime scene to permanently record the scene following law enforcement acceptable standards. Document findings with adherence to law enforcement standards using acceptable terminology. (TN Reading 3; TN Writing 4)

10) During a systematic search of a simulated crime scene, identify physical evidence. Demonstrate the legal and acceptable methods for collecting, packaging, and preserving evidence, using the appropriate procedures and tools. (TN Reading 2, 3, 5; TN Writing 9)

11) Define the term "chain of evidence". Review a court case in which the chain of evidence was not followed, and explain the legal ramifications if the chain is disrupted; consider steps to prevent evidence being excluded from a case. (TN Reading 2, 4; TN Writing 9)

Physical Evidence Analysis
For each of the standards in this section, evaluate court case studies related to each concept.

12) Investigate the science surrounding the physical properties of matter, and explain how they are related to the role of the law enforcement officer when collecting evidence. Apply the principles of temperature, weight and mass, density, and refractive index in the context of forensic science. (TN Reading 4; TN Writing 4; TN Math N-Q)

13) Explain the physical composition of glass and relate the characteristics of various types such as tempered and laminated. Demonstrate the skill of identifying the classifications of glass fragments, and calculate the projectile path by examining glass fractures at a simulated scene. (TN Reading 1, 2, 3, 4; TN Math N-Q)

14) Examine the forensic tools used in a field sobriety test and a blood alcohol test, and describe legal guidelines that must be followed when performing each of these tests as they relate to the constitutional rights of suspects. Evaluate concepts of toxicology and metabolism of alcohol, and determine the effects of alcohol on persons of different weights, ages, and genders. (TN Reading 1, 3, 4, 9; TN Writing 4, 9)

15) Evaluate a death related to chemicals that can be harmful or poisonous to the human body, such as drugs or carbon monoxide. Describe the process for collecting and preserving toxicology evidence and the techniques used for detecting the type of substance. (TN Reading 2, 4; TN Writing 4, 9)

16) Analyze the scientific basis of tests performed on various body fluids and/or stains at a crime scene to determine their origins. Demonstrate collection of simulated body fluids from a staged crime scene to preserve and prevent contamination of the sample. Include in the demonstration compliance with OSHA standards of practice when dealing with blood and body fluids. (TN Reading 2, 3, 4; TN Writing 4)

17) Describe the techniques used to excavate bones from a crime scene and the methods for distinguishing human bones from animal bones. Identify the parameters for determining the age, sex, and possible ethnicity of a human skull. (TN Reading 1, 3, 8; TN Writing 4)

18) Review an autopsy report to determine the time and cause of death through evaluation of body temperature, rigor mortis, post mortem lividity, appearance of eyes, skin color, and presence of entomology. Document findings in an informative essay or other report. (TN Reading 1, 2, 8; TN Writing 2)

19) Debate in a written or oral presentation how DNA testing and the Combined DNA Index System (CODIS) have changed the criminal justice system, citing evidence from professional print or digital journals, case studies, court cases, or interviews with law enforcement or forensic scientists to develop claim(s) and counterclaim(s). (TN Reading 1, 2, 9; TN Writing 1, 4, 9)

20) Document the interpretation of a simulated bloodstain pattern, including the following information:
    a. Data gathered from pattern analysis concerning the violent event
    b. Impact of surface texture, directionality, and angle on pattern

c. Calculation of angle of impact
d. Methods to determine the area of convergence and area of origin for impact spatter patterns
e. Whether the spatter is classified as a low-, medium-, or high-velocity impact spatter
f. How the pattern was created and distinguishing features
g. Type of spatter

(TN Reading 1, 2, 3, 4; TN Writing 4, 7, 8, 9; TN Math N-Q)

21) Compare and contrast the physical and microscopic properties of human hair vs. animal hair. Demonstrate the skills of collecting and preserving hair evidence at a simulated crime scene. (TN Reading 3)

22) Explain the automated fingerprint identification system (AFIS), why it was developed, and how it is currently being utilized in law enforcement. Demonstrate the procedure for detecting fingerprints, developing latent prints, and preserving developed prints. (TN Reading 2, 4; TN Writing 2, 4)

23) Identify the recognizable characteristics, from bullets and cartridge casings, at a staged crime scene or from a case study. Explain in a graphic presentation how these characteristics are placed in the National Integrated Ballistics Information Network and the uses of the network by local, state, and federal law enforcement. (TN Reading 2, 4; TN Writing 6)

24) Research the concepts surrounding bullet trajectory and its uses in criminal investigations for determining victim and suspect locations and movements at a crime scene. Prepare a professional written report summarizing this information. (TN Reading 1, 2, 3, 4; TN Writing 2, 4, 5, 7, 8, 9; TN Math N-Q)

25) Compare and contrast the various forensic techniques used at a crime scene and in the laboratory to determine gunpowder residue, shoe prints, tool marks, tire marks and bite marks. Provide a full explanation of each test. (TN Reading 2, 4; TN Writing 4, 9)

Standards Alignment Notes

*References to other standards include:

- TN Reading: State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects; Reading Standards for Literacy in Science and Technical Subjects 6-12; Grades 11-12 Students (page 62).
    - Note: While not directly aligned to one specific standard, students who are engaging in activities outlined above should be able to also demonstrate fluency in Standard 10 at the conclusion of the course.
- TN Writing: State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects; Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 6-12; Grades 11-12 Students (pages 64-66).
    - Note: While not directly aligned to one specific standard, students who are engaging in activities outlined above should be able to also demonstrate fluency in Standards 3 and 10 at the conclusion of the course.

- TN Math: State Standards for Mathematics; Math Standards for High School: Number and Quantity.
    - Note: The standards in this course are not meant to teach mathematical concepts. However, the concepts referenced above may provide teachers with opportunities to collaborate with mathematics educators to design project-based activities or collaborate on lesson planning. Students who are engaging in activities listed above should be able to demonstrate quantitative reasoning as applied to specific technical concepts. In addition, students will have the opportunity to practice the habits of mind as described in the eight Standards for Mathematical Practice.
- P21: Partnership for 21st Century Skills Framework for 21st Century Learning
    - Note: While not all standards are specifically aligned, teachers will find the framework helpful for setting expectations for student behavior in their classroom and practicing specific career readiness skills.